IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TITLE: METHOD AND APPARATUS FOR DETECTING MASTITIS

Amendment C: CLAIM AMENDMENTS

Claims 1 - 20 (canceled).

21. (Currently amended) A method of testing milk from a mammal for a presence of an infection in the mammal, the method comprising:

introducing a liquid sample of the milk within a milk line of an automated milking system and a reagent into a reaction chamber within the milk line, said reagent having a light-amplifying compound therein;

reacting said light-amplifying compound with ~~an extracellular~~ a substance produced by the cells of the mammal in response to the infection prior to the liquid sample being introduced into the reaction chamber; and

immediately after introducing the liquid sample and reagent into the reaction chamber, activating a light detector to measure ~~measuring~~ a peak of ~~immediately~~ emitted light from a reaction between the light-amplifying compound and the substance produced by cells.

22. (Currently amended) The method of claim 21, ~~said~~ the substance produced by the cells of the mammal in response to the infection, being produced by phagocytic leukocytes.

23. (Currently amended) The method of claim 22, ~~said~~ the substance produced by the cells of the mammal in response to the infection, being produced when phagocytic leukocytes phagocytose bacteria.

24. (Previously presented) The method of claim 23, said light-amplifying compound reacting with reactive oxygen so as to emit light.

25. (Previously presented) The method of claim 21, the step of immediately measuring comprising:

measuring said intensity for a maximum of five minutes after the step of introducing.

26. (Currently amended) The method of claim 21, further comprising:

forming a fluid-tight and light-tight reaction chamber of variable capacity;

connecting a first inlet port of said reacting chamber to ~~a~~ the milk line of an automatic milking system;

connecting a second inlet port of said reaction chamber to a supply of said reagent; and

increasing a capacity of said reaction chamber so as to draw the milk and said reagent into said reaction chamber.

27. (Previously presented) The method of claim 26, further comprising:

connecting electrically-actuated operating valves to said first and second inlet ports; and

controlling said operating valves to regulate a proportion of said reagent and the milk drawn into said reaction chamber.

28. (Previously presented) The method of claim 26, the step of increasing the capacity comprising:

moving a piston in said reaction chamber.

29. (Currently amended) A method of testing milk from a mammal for a presence of an infection in the mammal, the method comprising:

introducing a liquid sample of the milk within a milk line of an automated milking system and a reagent into a reaction chamber within the milk line, said reagent having a light-amplifying compound therein;

reacting said light-amplifying compound with a~~n extracellular~~ substance produced by cells of the mammal in response to the infection, the substance being produced before the step of introducing the sample and the reagent; and

immediately after introducing the liquid sample and reagent into the reaction chamber, activating a light detector to measure~~; and~~

~~detecting an immediate~~ a peak of emitted light intensity from a reaction between the light-amplifying compound and the substance produced by cells.